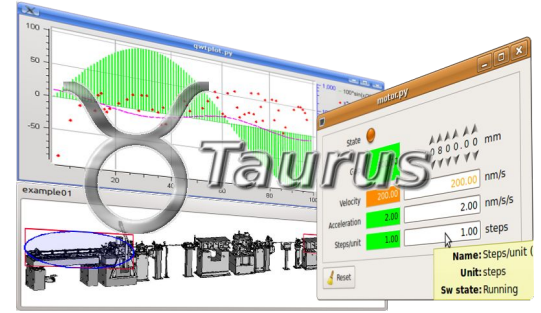




TAURUS Workshop, 12-13 May 2026



Color schemes in Taurus



Raphaël
Girardot



Oriol
Vallcorba



Nacho
Vergara



Outline

- Motivation
- Colors in Taurus
- Adding the Tango State color policy
- Color palette support in TaurusLed
- Next steps

Motivation

For historical reasons Taurus color convention differ slightly from Tango colors.

This was reported in issue [#1391](#)

State	bg	fg	Taurus Color	bg	fg	ATK Color
On	Lime (0,255,0)	Black (0,0,0)	On	Lime (0,255,0)	Black (0,0,0)	On
Off	White (255,255,255)	Black (0,0,0)	Off	White (255,255,255)	Black (0,0,0)	Off
Close	White (255,255,255)	Green (0,128,0)	Close	White (255,255,255)	Green (0,128,0)	Close
Open	Lime (0,255,0)	Black (0,0,0)	Open	Lime (0,255,0)	Black (0,0,0)	Open
Insert	White (255,255,255)	Black (0,0,0)	Insert	White (255,255,255)	Black (0,0,0)	Insert
Extract	Lime (0,255,0)	Black (0,0,0)	Extract	Lime (0,255,0)	Black (0,0,0)	Extract
Moving	Taurus - Cornflower Blue (128,160,255)	Black (0,0,0)	Moving	Light blue (128,160,255)	Black (0,0,0)	Moving
Standby	Yellow (255,255,0)	Black (0,0,0)	Standby	Yellow (255,255,0)	Black (0,0,0)	Standby
Fault	Red (255,0,0)	Black (0,0,0)	Fault	Red (255,0,0)	White (255,255,255)	Fault
Init	Taurus - Dark Khaki (204,204,122)	Black (0,0,0)	Init	beige (204,204,122)	Black (0,0,0)	Init
Running	Taurus - Cornflower Blue (128,160,255)	Black (0,0,0)	Running	Dark green (0,125,0)	White (255,255,255)	Running
Alarm	Dark Orange (255,140,0)	White (255,255,255)	Alarm	Dark Orange (255,140,0)	White (255,255,255)	Alarm
Disable	Magenta (255,0,255)	Black (0,0,0)	Disable	Magenta (255,0,255)	White (255,255,255)	Disable
Unknown	Gray (128,128,128)	Black (0,0,0)	Unknown	Gray (155,155,155)	White (255,255,255)	Unknown

Tango official state colors available in [tango device documentation](#)

Motivation

(not a new discussion topic)

widgets hard to read on
dark color scheme : [#1345](#)



Features for users with
color blindness : [#1284](#)



Colors in Taurus

`taurus.core.util.colors`

- Define **palettes** (`DEVICE_STATE_PALETTE`, `ATTRIBUTE_QUALITY_PALETTE`) and the `ColorPalette` class to **convert state/quality to color**
- Receives keys and returns colors
- Extended in `QtColorPalette` class from `qt.qtgui.util.tauruscolor` to adapt to `QtColor`, `QtBrush`, etc.

Widgets/controllers:

- Decide which role to use as `bgRole` and `fgRole`: `quality`, `state`, `rvalue`, ...

Scheme-specific code/colors

- Schemes may add color keys (e.g. Tango `DevState.ON`, ...) in palettes
- Added on top of Taurus scheme-agnostic colors:
 - `DEVICE_STATE_DATA` (TaurusDevState Ready, NotReady, Undefined)
 - `ATTRIBUTE_QUALITY_DATA` (ATTR_VALID/INVALID/ALARM/WARNING/CHANGING, Unknown)

Adding Tango State color policy

[I1361](#) Addition of the Tango State color policy

```
DEVICE_STATE_PALETTE = ColorPalette(DEVICE_STATE_DATA, _PYTANGO_DEVSTATE_INT_DECODER)
```

```
DEVICE_STATE_DATA = {
    "TaurusDevState.Ready": ("Lime", 0, 255, 0, 0),
    "TaurusDevState.NotReady": ("Red", 255, 0, 0, 0),
    "TaurusDevState.Undefined": ("Gray", 128, 128, 128, 0),
}
```

Configurable via

TANGO_DEVICE_STATE_COLOR_POLICY

in

TaurusCustomSettings

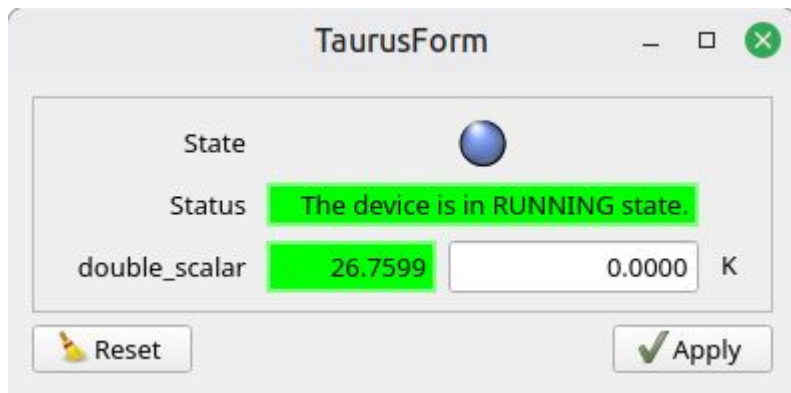
```
policy = getattr(tauruscustomsettings, "TANGO_DEVICE_STATE_COLOR_POLICY", "Taurus")
if policy == "Taurus":
    DEVICE_STATE_DATA.update(**TANGO_STATE_COLORS, **TAURUS_STATE_COLOR_OVERRIDES)
else: # Tango policy
    DEVICE_STATE_DATA.update(TANGO_STATE_COLORS)
```

```
TAURUS_STATE_COLOR_OVERRIDES = {
    "ON": ("Lime", 0, 255, 0, 0),
    "RUNNING": ("Taurus - Cornflower Blue", 128, 160, 255, 0),
    ...
}
```

```
TANGO_STATE_COLORS = {
    "ON": ("green", 0, 255, 0, 0),
    "RUNNING": ("dark green", 20, 125, 0, 0),
    ...
}
```

Adding Tango State color policy

Not covering some widgets -> e.g. Leds and titlebar [#1439](#)



TaurusLed has limited list of colors as it uses raster PNG images (thus the custom logic)

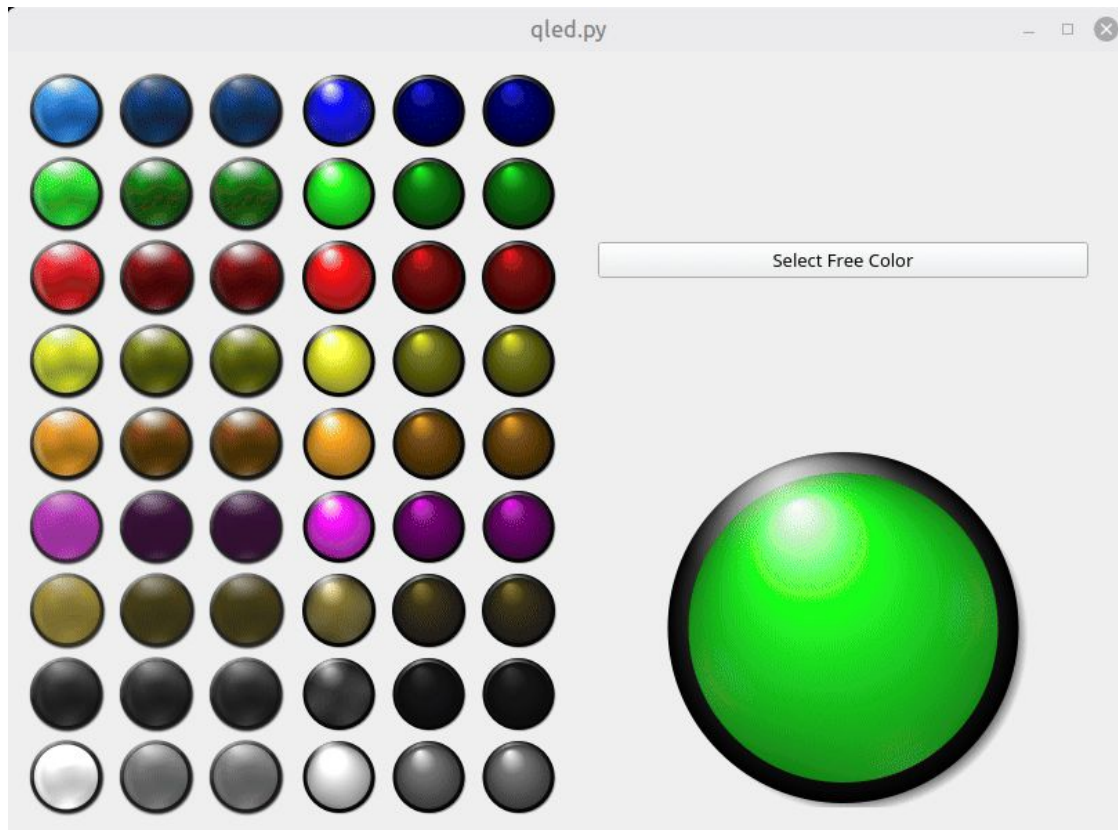
Target: Colors from colors.py should be the single source of truth.

Color palette support in TaurusLed [!1388](#)

Support of the Palettes defined in `colors.py` in TaurusLed:

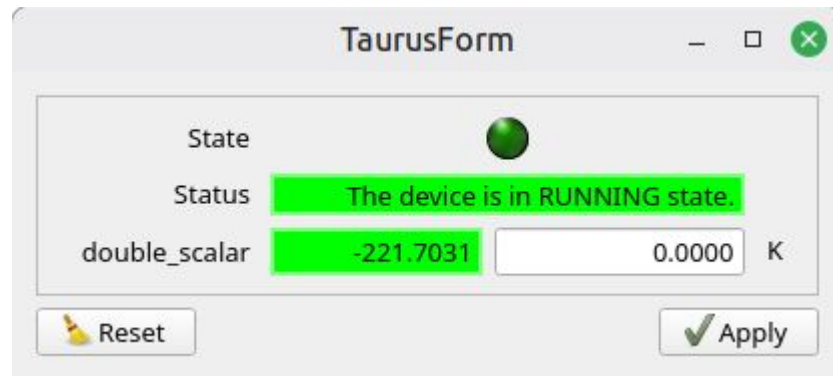
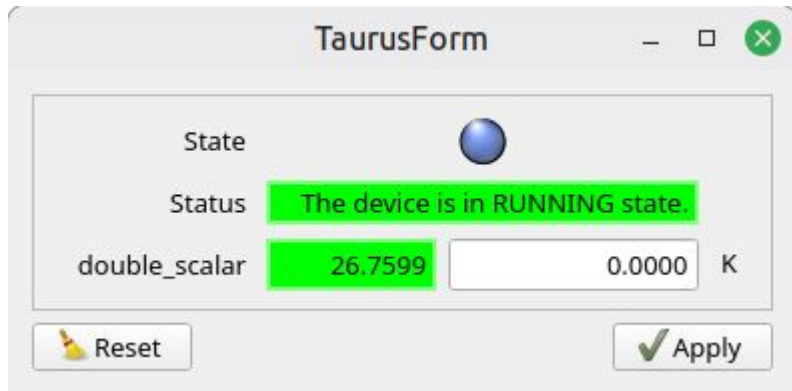
- New `QLedPainted` widget generating the Leds as pure Qt graphic items (no PNGs). Any color may be applied.
- Selectable backend in `TaurusLed` (`QLedPainted` or `QLed`) via `TAURUS_LED_BACKEND` in `TaurusCustomSettings` (`painted/ pixmap`)
- Substitute hardcoded colors for palette key in `TaurusLedControllers` so that `TaurusLed` will take what has been defined in `colors.py`
- Color resolver in `TaurusLed` according to the backend (+ `pixmap` fallbacks)
- While `TaurusLed` resolves semantics, each backend resolves representations (`QLedPainted` any color, `QLed` limited to available pngs)

Color palette support in TaurusLed



Color palette support in TaurusLed

```
[taurus]  
TANGO_DEVICE_STATE_COLOR_POLICY="tango"
```



Next steps

Now:

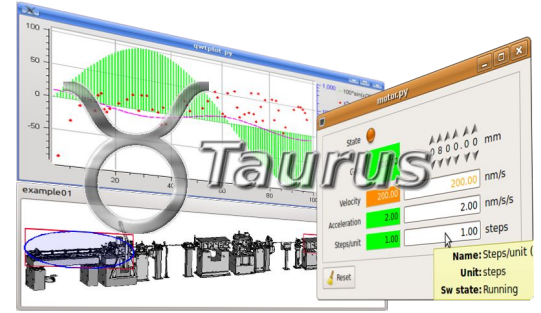
- Color policies hardcoded in `colors.py` (taurus and tango available)
- Configured via [custom setting](#) `TANGO_DEVICE_STATE_COLOR_POLICY`

Proposals:

- Adapt other widgets as titlebar
- Extend color policies without hardcoding (plugin style or via custom settings)
- Extend color policies to support color schemes (Qt dark mode, etc...)
- Standardize how `bgRole` is selected
- Any proposals? feedback?



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